

REMARKS

Claims 21-30 have been canceled, independent claim 13 has been amended, and new claims 31-45 have been added. Thus, claims 13, 16-18, 20 and 31-45 are pending. No new matter was added. In addition, the specification has been amended according to the Examiner's suggestion and to provide proper antecedent basis for language utilized in the claims. No new matter was added. Applicant submits that claims 13, 16-18, 20 and 31-45 are patentable over the prior art cited by the Examiner in the Final Office Action. Accordingly, allowance of the present application is respectfully requested.

Amendment to the Specification

In the Final Office Action, the Examiner stated that "Applicant should indicate status at p.1, after the title, as a 371 application." Applicant has amended the specification accordingly.

In addition, Applicant has amended the last paragraph on page 5 of the present application as filed. As filed, this paragraph stated that:

"Acrylic fibres containing 0.4% tolnaftate were prepared by a similar method to that disclosed in Example 1 of GB-2,309,461. Such fibres are available commercially from Courtaulds Fibres (Holdings) Limited under the Trade Mark AMICOR AF. ..."

This paragraph has been amended to stated that:

"Acrylic fibres containing 0.4% tolnaftate were prepared by a similar method to that disclosed in Example 1 of GB-2,309,461, which discloses adding tolnaftate to an acrylic dope that is spun through a spinnerette into a cold aqueous coagulating bath to form a tow of fibre. See page 4, lines 21-33, of GB-2,309,461. Such fibres are available commercially from Courtaulds Fibres (Holdings) Limited under the Trade Mark AMICOR AF. ..."

Applicant submits that no new matter was added. To this end, GB-2,309,461 clearly discloses adding tolnaftate to an acrylic dope that is spun through a spinnerette into a cold

aqueous coagulating bath to form a tow of fibre on page 4, lines 21-33, of GB-2,309,461.

This is being added to the specification of the present application merely to assure that proper antecedent basis exists between the claims and the specification.

Amended Claim 13 and New Claims 31-45

All the pending claims are directed to a method for controlling house dust mites and bedmites. Claims 21-30 drawn to a non-elected invention have been canceled.

Independent claim 13 requires the step of incorporating **into** a manmade fibre, **during the course of manufacture of said manmade fibre**, a chemical compound which has anti-fungal activity against fungi of at least one of the groups *aspergillus glaucus* and *aspergillus restrictus*. The standard dictionary definition of “into” is “to the inside of”, and the phrase “during the course of manufacture of said manmade fibre” refers to the formation of the fibre itself. Thus, claim 13 requires the chemical compound to be incorporated within and throughout the body of the fibre as the fibre itself is being formed so that the chemical compound is located “to the inside of” the fibre. This is in direct contrast to a surface treatment or topical application of a chemical compound on an already formed fibre.

Dependent claim 31 requires that the chemical compound be incorporated into a material from which the manmade fibre is manufactured, and dependent claim 32 requires the material from which the manmade fibre is manufactured to be a spinning dope. New dependent claim 33 further requires the step of forming the manmade fibre from the spinning dope after the chemical compound has been incorporated into the spinning dope. No new matter was added. See page 4, lines 16-21, and page 5, lines 10-14, of the present application as filed, which discloses the preferred use of acrylic fibers containing tolnaftate and the like

made according to Example 1 in GB-A-2,309,461. The cited reference clearly discloses that the tolnaftate is added to a spinning dope which, in turn, is utilized to make the fibers.

New claim 34 refers to the fibres having a fissured structure as disclosed in the present application, as filed, on page 4, lines 32-36. The present application also discloses on page 4, lines 31-32, that the antifungal effect provided by the present invention is long-lasting and endures throughout launderings.

New independent claim 35 includes all the limitations of independent claim 13 and requires that the antifungal compound is incorporated into a spinning dope as disclosed above. New independent claim 37 includes similar limitations recited in independent claim 13 and requires that the fungicidal compound is incorporated into a material used to make manmade fibres having a fissured structure as disclosed above.

New dependent claims 38-45 correspond to canceled dependent claims 23-30. No new matter was added.

Claim Rejections Under 35 USC §103(a)

In the FINAL Office Action, the Examiner rejects claims 13, 16-18 and 20 under 35 USC §103(a) as being obvious over International PCT Publication No. WO 97/24484 of Kluft in view of European Patent Application Publication No. EP 0047553 A1 of Lebrun et al..

Kluft discloses mixing a biocide and fungicide with a bonding agent and spraying the mixture onto the outer surface of an already formed fiber (see page 10 of the Kluft translation). To this end, after loose fibers are dyed, the fibers are sprayed and coated with the biocide/fungicide/bonding agent mixture. The bonding agent is a melamine-formaldehyde resin or a fluorinated acrylic compound, which are well known as finishing

agents applied to fibers to provide an easy-care or waterproof finish. Thus, Kluft encases the biocide/fungicide within a resinous coating applied to the outer layer of the fiber and discloses that the biocide/fungicide on such fibers survive launderings.

In the FINAL Office Action, the Examiner states that Kluft discloses “a multitude of means of biocide incorporation to control, ultimately, fungi and mites including incorporation during fiber manufacture”. Applicant respectfully disagrees that Kluft discloses incorporating a biocide during fiber manufacture. Kluft discloses treating already-manufactured and fully-formed fibers with a biocide that is attached to the fiber by means of a binder. (See page 10 of the Kluft translation.) This is not incorporation during fiber manufacture, but instead, is surface treatment to an already-formed fiber during subsequent processing of the fiber as part of the process for making a textile article.

In contrast, the claims of the present invention require the antifungal compound to be incorporated into the fiber during the manufacture and formation of the fiber itself. This is not a surface treatment. Rather, the present invention requires the antifungal compound to be added to a material, such as a spinning dope, that is utilized to form the manmade fibers. For example, the material, or dope, can be extruded through a spinnerette into a coagulating bath to form a tow of fiber. In this way, the antifungal compound is located within the fissured structure of the body of the fiber and throughout the body of the fiber without the use of a binder or an encapsulating resinous coating.

Thus, there is an important distinction between the surface treatment of already manufactured fiber as taught by Kluft (as disclosed on page 10 of the Kluft translation) and the manufacture of fiber from a material having an antifungal compound therein. Applicant has requested a three month suspension and expects to provide evidence by way of an inventor’s affidavit concerning the significant commercial success of the present invention

and certificates and endorsements from relevant authorities. The Applicant also points out that there is no evidence in the marketplace of a product according to Kluft, and it is believed that this is because of the practical problems in the implementation of the Kluft process as well as health and safety issues arising from the use of the biocides and acaricides specified in Kluft.

Turning to the Lebrun reference, it discloses topical applications of a fungicide (natamycin) to bedding by spraying the fungicide on the exposed surfaces of the bedding after each laundering. Such treatments involve the practical difficulty of repeatedly treating bedding with such a compound subsequent to laundering.

To provide effective control of mites, a method is required which is both effective in use and sufficiently practical so that it can be adopted in the first place. Topical applications of natamycin on bedding after each laundering according to the Lebrun patent is clearly an impractical solution.

Neither Kluft nor Lebrun discloses a method that incorporates a fungicide within the structure of a manmade fiber during manufacture of the fiber. In addition, neither Kluft nor Lebrun discloses a method for the formation of a fungicidal fiber structure in which fungicide can migrate from within the structure of the fiber to the surface of the fiber to replenish fungicide lost, for instance, as a result of laundering. Still further, neither reference discloses a method that does not require a coating step and/or a binder and that does not spoil the aesthetic characteristics provided by the natural surface of the fiber.

For these reasons, Applicant respectfully submits that independent claim 13 of the present application is patentable over Kluft and Lebrun.

In addition, these references also fail to disclose the incorporation of an antifungal compound in a material, such as a spinning dope, that is used to form fibers. For this

additional reason, Applicant respectfully submits that new independent claims 35 and 37 of the present application are also patentable over Kluft and Lebrun.

Reconsideration and removal of the rejection based on Kluft and Lebrun is therefore requested.


Conclusion

Applicant has made a significant advance in the development of bedding and like domestic articles that are capable of providing improved conditions for allergy and asthma sufferers by preventing the colonization and proliferation of HDM therein. His invention is meritorious.

In view of the above amendments and remarks, Applicant respectfully submits that the rejections have been overcome and that the present application is in condition for allowance. Thus, a favorable action on the merits is therefore requested.

Please charge any deficiency or credit any overpayment for entering this Amendment to our deposit account no. 08-3040.

Respectfully submitted,
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